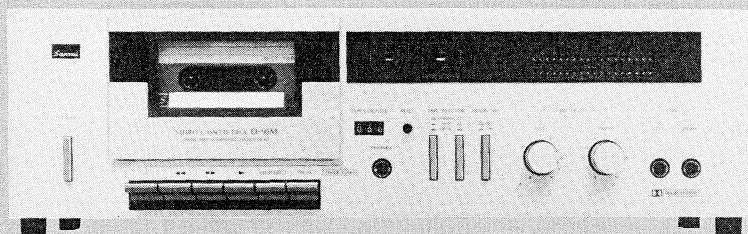


SERVICE MANUAL

STEREO CASSETTE TAPE DECK

SANSUI D-95M



● SPECIFICATIONS

Track 4-Track (2-Channel Stereo)

Wow and flutter within 0.07 % WRMS

Frequency response (Record/Playback)

Normal Tape (LH) (–20 VU)

. 20 to 15,000 Hz

(30 to 14,000 Hz ± 3 dB)

Metal Tape (–20 VU)

. 20 to 17,000 Hz

(30 to 15,000 Hz ± 3 dB)

(0 VU) . . . 30 to 13,000 Hz ± 3 dB

Signal to noise ratio (Record/Playback)

Metal Tape (without Dolby Noise Reduction Effect)

. better than 58 dB (weighted)

(With Dolby Noise Reduction)

. better than 68 dB (above 5 kHz)

Input sensitivity and impedance (0 VU, 1,000 Hz)

MIC 0.4 mV/200 Ω $\sim$ 5 k Ω

LINE IN (REC) . . . 70 mV/47 k Ω

Output level (0 VU, 1,000 Hz)

LINE OUT (PLAY) 400 mV

PHONES 30 mV/8 Ω

Power voltage 110 $\sim$ 120, 220 $\sim$ 240 V

(50/60 Hz)

For USA and Canada

. 120 V (60 Hz)

Power consumption . . 13 W

Dimensions 430 mm (16-15/16") W

132 mm (5-1/4") H

238 mm (9-3/8") D

Weight 4.2 kg (9.3 lbs.) net

4.9 kg (10.8 lbs.) packed

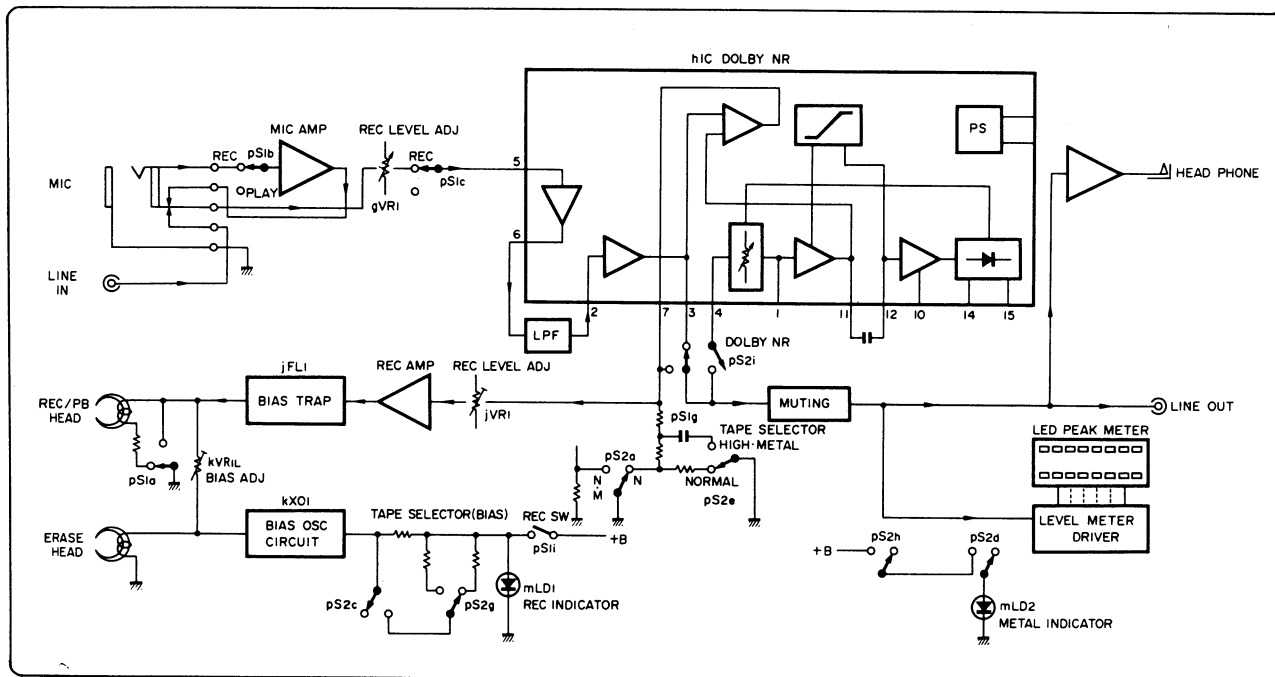
* Design and specifications subject to change without notice for improvements.

Sansui

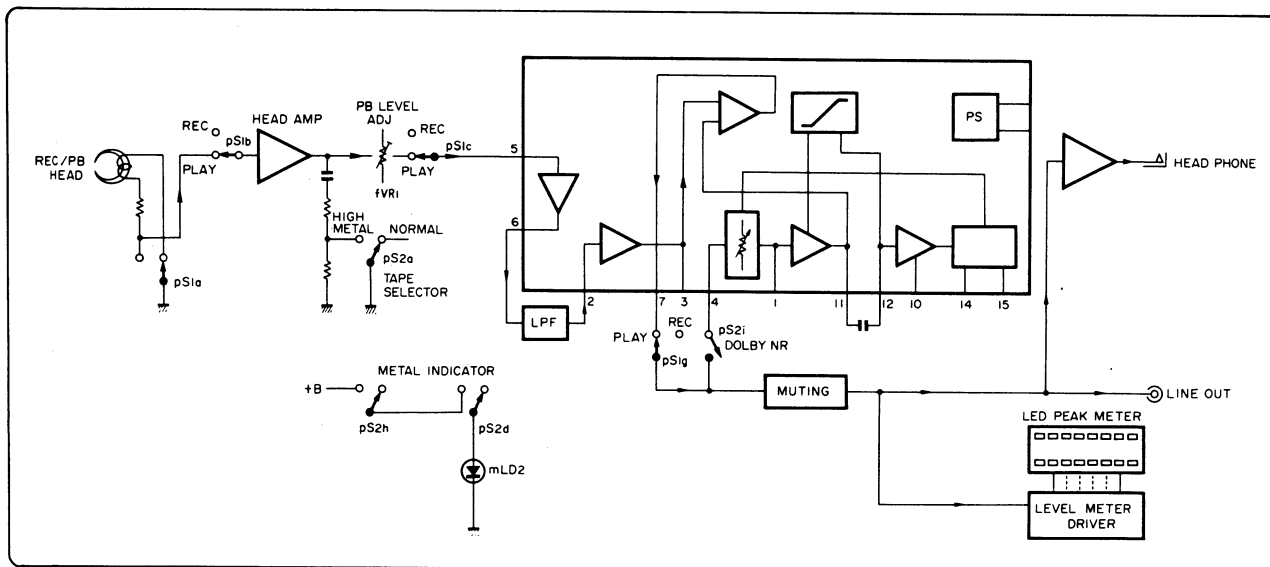
SANSUI ELECTRIC CO., LTD.

1. BLOCK DIAGRAM

1-1. Recording Operation Block Diagram



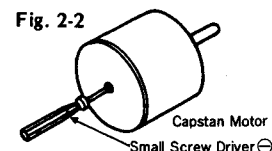
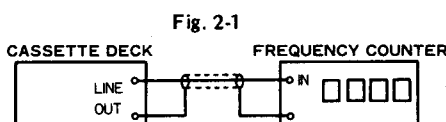
1-2. Playback Operation Block Diagram



2. ADJUSTMENTS

2-1. Tape Speed Adjustment

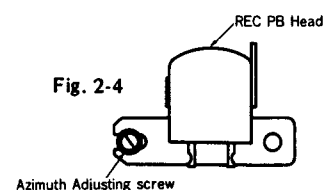
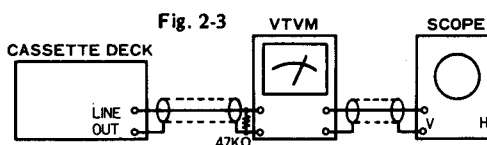
- Note: 1. Use Sansui Test Tape, SCT-S3K
(3 kHz signals are recorded on the tape).
2. Connections are shown in Fig. 2-1.



STEP	SUBJECT	MEASURE OUTPUT	SETTING	ADJUSTMENT	ADJUST FOR	REMARKS
1.	TAPE SPEED Adj.	LINE OUT Frequency counter	Playback the TEST TAPE SCT-S3K.	Turn semi-variable resistor as Fig. 2-2.	3000 Hz $\pm$ 45 Hz	Use small screw driver.

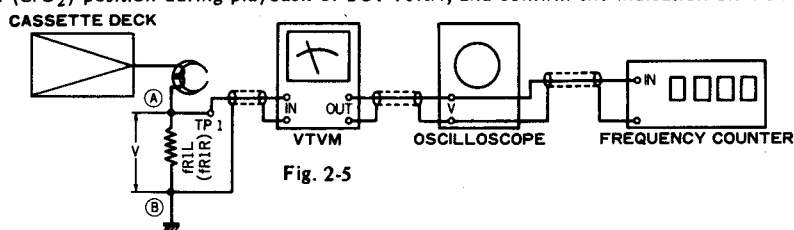
2-2. Playback Adjustment

- Note: 1. Before this adjustment, clean REC/P.B. head surface.
2. For this adjustment, use Sansui Test Tape, SCT-F10KN, SCT-L400N and SCT-F1K.
3. Set the Dolby NR switch to be OFF.
4. Connections are shown in Fig. 2-3.



STEP	SUBJECT	MEASURE OUTPUT	SETTING	ADJUSTMENT	ADJUST FOR	REMARKS
1.	REC/P.B. Head Adj.	LINE OUT VTVM, Scope	Playback the TEST TAPE SCT-F10KN	Adjust the azimuth adjusting screw in Fig. 2-4.	MAX. Output on both channels.	After this adjustment, lock the screw with paint.
2.	Playback Level Adj.	Same as above	Set TAPE SELECTOR to NORMAL (LH) position. Playback the TEST TAPE SCT-L400N.	Adjust each fVR1 on L-CH and R-CH.	500 mV $\pm$ 2 dB	See Top View on page 7.
3.	High Frequency Equalization Check	Same as above	Set TAPE SELECTOR to NORMAL (LH) position. Playback the TEST TAPE SCT-F1K.	—	—	Read output levels on both channels.
			Playback the TEST TAPE SCT-F10KN.	—	—	Confirm that the output levels are within $\pm$ 3 dB comparing with the above readings.

Note: On STEP 3, set the TAPE SELECTOR to HIGH (CrO₂) position during playback of SCT-10KN, and confirm the indication on VTVM drops approximately 3 dB ~ 4 dB.



2-3. Recording Adjustment

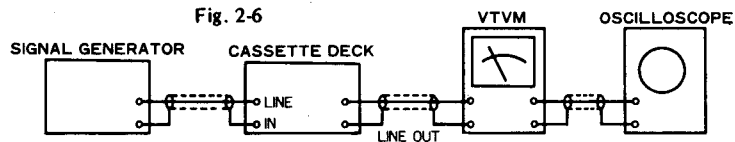
1) Bias Adjustment

- Note: 1. For this adjustment, use Sansui Test Tape, SCT-SA.
2. Set the Dolby NR Switch to be OFF.
3. Connections are shown in Fig. 2-5.

STEP	SUBJECT	MEASURE OUTPUT	SETTING	ADJUSTMENT	ADJUST FOR	REMARKS
1.	Recording Bias Adj.	Between A & B points of each fR1L & fR1R. VTVM, Scope, Frequency Counter	Load the TEST TAPE SCT-SA. Depress PAUSE, REC and PLAY buttons. Set TAPE SELECTOR to HIGH (CrO ₂) position.	Adjust kVR1L for L-CH and kVR1R for R-CH.	6.8 mV	See Top View on page 7.
			Set TAPE SELECTOR to NORMAL (LH) position.	—	—	Confirm the indication on VTVM shows 4.5 mV.
			Set TAPE SELECTOR to METAL position.	—	—	Confirm the indication on VTVM shows 8.5 mV.
2.	Bias Frequency Check	Same as above	Load the TEST TAPE SCT-SA. Set TAPE SELECTOR to NORMAL (LH) position.	—	—	Confirm that the Frequency Counter shows 85 kHz $\pm$ 10 kHz.

2) Rec Level & Frequency Response Adjustment

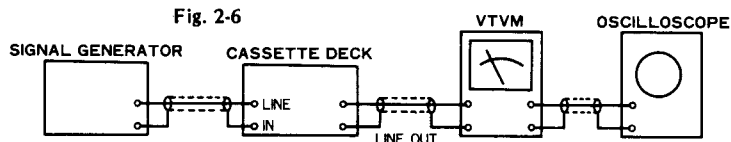
- Note: 1. Rec Level Volume Max.
2. Connections are shown in Fig. 2-6.
3. Set the Dolby NR switch to be OFF.



STEP	SUBJECT	INPUT SIGNAL	MEASURE OUTPUT	SETTING	ADJUSTMENT	REMARKS
1.	REC Level Adj.	Feed 1 kHz, 70 mV from S.G into LINE IN.	LINE OUT VTVM Scope	Load the TEST TAPE SCT-SA. Set TAPE SELECTOR to HIGH (CrO ₂) position. 1. Depress PAUSE, PLAY and REC button. 2. Adjust the Rec Level Volume for obtaining 400 mV on VTVM. 3. Push off the PAUSE button, then record the 1 kHz signal. 4. Play back the 1 kHz signal. 5. Confirm that the output levels on both channels are 400 mV $\pm$ 2 dB on VTVM.	1. If not, turn jVR1 (REC, L-CH) and jVR1 (REC, R-CH) until output level 400 mV $\pm$ 2 dB on both channel are obtained. 2. Repeat this REC Level adj. until the indication on VTVM will be 400 mV $\pm$ 2 dB.	jVR1 (REC, L-CH), and jVR1 (REC, R-CH) are shown in Top View on page 7.
2.	Frequency Response Adj.	Feed 1 kHz 7 mV (-20 dB) and 10 kHz 7 mV (-20 dB) from S.G. into LINE IN.	Same as above	Load the TEST TAPE SCT-SA. Set TAPE SELECTOR to HIGH (CrO ₂) position. 1. Record the 1 kHz and 10 kHz signals from S.G. 2. Play back the 1 kHz and 10 kHz signals, then confirm that both output levels equal.	1. If not, adjust kVR1L for L-CH and kVR1R for R-CH slightly until the output levels will be equal.	As kVR1L and kVR1R are previously adjusted in step of Bias Adjustment, turn them slightly, if necessary.

2-4. Peak Level Indicator Adjustment

- Note: 1. Set the TAPE SELECTOR to be NORMAL (LH) position.
2. Set the Dolby NR Switch to be OFF.
3. Connections are shown in Fig. 2-6.



STEP	SUBJECT	INPUT SIGNAL	MEASURE OUTPUT	SETTING	ADJUSTMENT	REMARKS
1.	Peak Level Indicator Adjustment	Feed 1 kHz, 120 mV from S.G. into LINE IN	LINE OUT VTVM Scope	Load the TEST TAPE SCT-SA 1. Depress PAUSE, PLAY & REC button. 2. Adjust the REC Level Volume for obtaining 0 dB point on Level Indicator. 3. Then confirm the output levels on both channels are 500 mV $\pm$ 2 dB on VTVM.	1. If more than it, take off rR5 (68k Ω). 2. If less than it, take off rR6 (33k Ω).	After this adjustment, perform the SETTING 1 ~ 3 again.

◆ List of Sansui Test Tape

Name of TEST TAPE	Recorded Frequency	Description
SCT-F40	40 Hz	Playback Frequency Response Check
SCT-F1K	1 kHz	High Frequency Equalization Check
SCT-F10k	10 kHz	REC/PB Head Adjustment
SCT-L400N	400 Hz	Playback Level and Indicator Level Adjustment
SCT-S3K	3 kHz	Speed Check and Wow & Flutter Check
SCT-LH NORMAL (LH)		Recording Bias Adjustment
SCT-SA HIGH (CrO ₂)		REC/PB Level Adjustment
SCT-CS Fe-Cr		Frequency Response Check

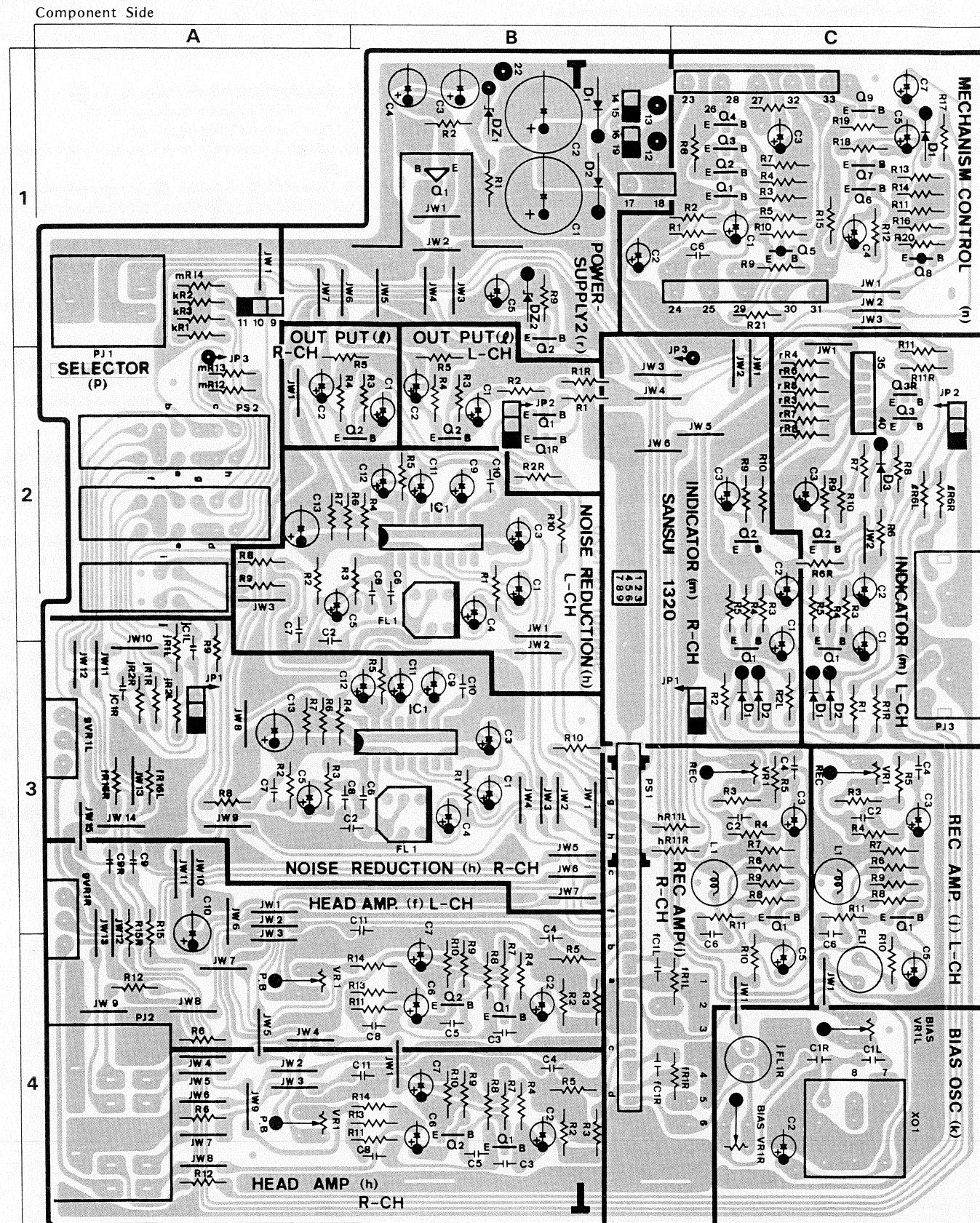
◆ TAPE SELECTOR Position

NORMAL Position		HIGH Position	
FUJI	FL, FXI	FUJI	FX II
MAXELL	UL, UD, XLI	MAXELL	XL II
TDK	D, AD, OD	TDK	SA
SCOTCH	TARTAN CRYSTAL MASTER 120	SCOTCH	MASTER 70
SONY	AHF, BHF, CHF Low-Noise	SONY	JHF
AGFA	SUPER SUPER COLOR SUPER FERRO DYNAMIC	AGFA	STEREO CHROM
BASF	LN Super LH I	BASF	SCR
METAL Position			
		MAXELL	MX
		TDK	MA-R, MA
		SCOTCH	Metafine
		SONY	METALLIC

3. PARTS LOCATION & PARTS LIST

3-1. G-1320 Main Circuit Board (Stock No. 00638501)

• Since some of capacitors and resistors are omitted from parts lists in this Service Manual, refer to the Common Parts List for capacitors & resistors which was appended previously to each Sansui Manual.



Parts List

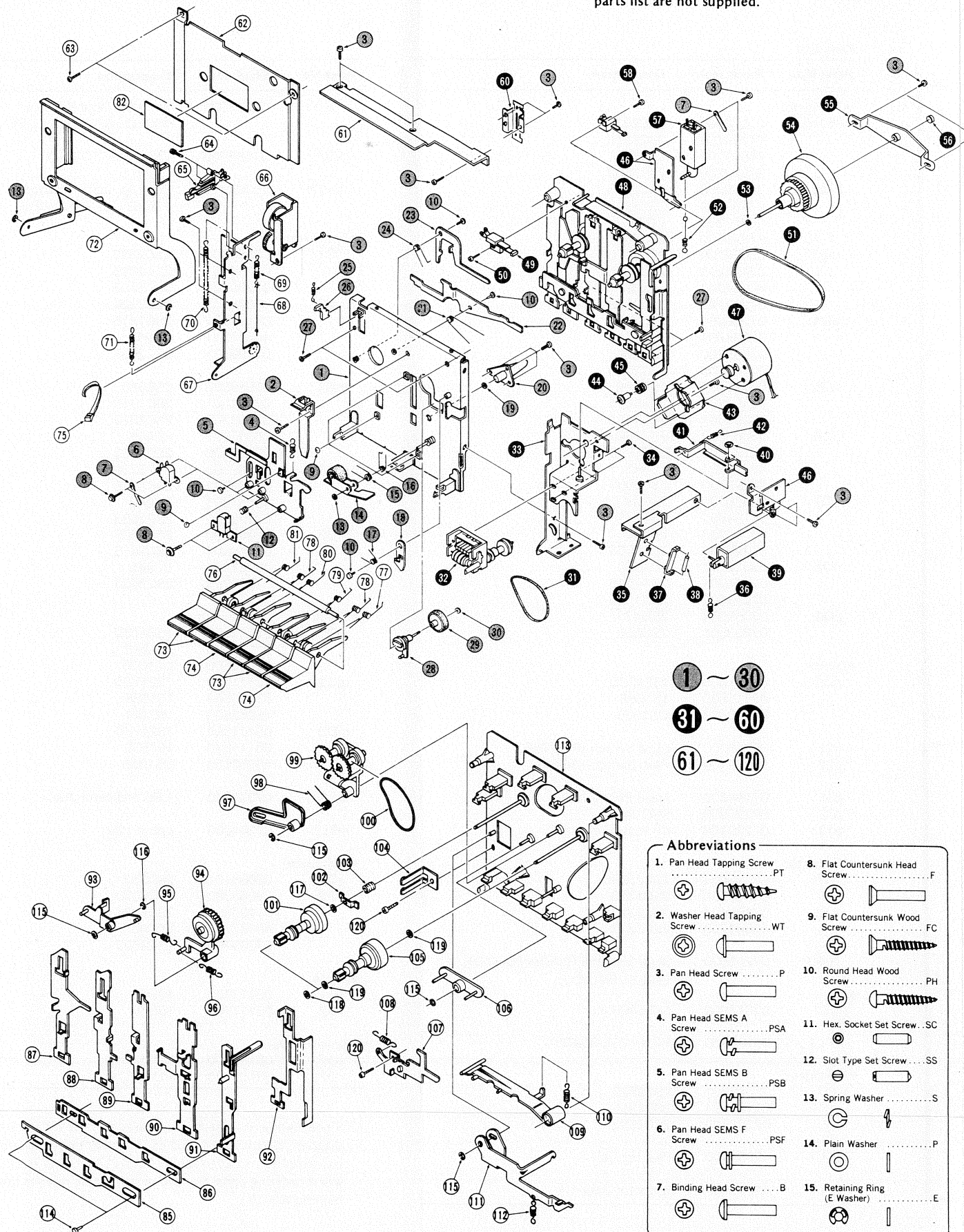
Parts No.	Stock No.	Description
• Transistor nQ1	03068300	2SC2320
	07194801	2SC1815
	46057201	LC945
nQ2	07299700	2SC2603
	03068300	2SC2320
	07194801	2SC1815
	46057201	LC945
	07299700	2SC2603
nQ3	03068300	2SC2320
	07194801	2SC1815
	46057201	LC945
	07299700	2SC2603
nQ4	07206901	2SC2001
	07254901	2SC1741
	03085200	2SD438
	03069100	2SC2060
nQ5	03012701	2SA999
	07194701	2SA1015
	07299601	2SA1115
nQ6	03068300	2SC2320
	07194801	2SC1815
	46057201	LC945
	07299700	2SC2603
nQ7	03068300	2SC2320
	07194801	2SC1815
	46057201	LC945
	07299700	2SC2603
nQ8	03012701	2SA999
	07194701	2SA1015
	07299600	2SA1115
nQ9	03085901	2SD471
	07263501	2SD600
• Diode nD1	03111600	1S2473D
	03111800	1S1588
	46052500	US1035
pS1	07245000	Slide Switch (Play/REC)
pS2	07237100, 1	Push Switch (Dolby)
pJ1	07194300	Head Phone Jack
pJ2	07200300	MIC Jack
pJ3	07249100	4P Input Terminal
• Transistor fQ1	07225401	2SC2320L
	03060700	2SC1313
fQ2	07225401	2SC2320L
	03060700	2SC1313
fVR1	07241500	Semi Variable Resistor 50kΩ (B) PB LEVEV ADJ.
• IC hIC1	03613600	NE-646BN
hFL1	07196900	Filter VSL-252GS
• Transistor jQ1	03068301	2SC2320
	07194801	2SC1815
	07299700	2SC2603
jFL1	42904400	Peaking Coil
jL1	49005500	Inductor 3.9μH

Parts No.	Stock No.	Description
jVR1	10351300	Semi Variable Resistor 100kΩ (B), REC LEVEV ADJ.
kXO1	07189700	Osc Block BO-3HA
kVR1	10351900	Semi Variable Resistor 100kΩ (B), BIAS ADJ.
• Transistor IQ1	03068300	2SC2320
	07194801	2SC1815
	07299700	2SC2603
IQ2	03068301	2SC2320
	07194801	2SC1815
	46057201	LC945
	07299701	2SC2603
mQ1	03059502	2SC945
	07194801	2SC1815
	03068302	2SC2320
	46057201	LC945
mQ2	07299702	2SC2603
	03068300	2SC2320
	07194801	2SC1815
	46057201	LC945
mQ3	03068300	2SC2320
	07194801	2SC1815
	46057201	LC945
	07299700	2SC2603
• Diode mD1	03111600	1S2473D
	03111800	1S1588
	46052500	US1035
mD2	03111600	1S2473D
	03111800	1S1588
	46052500	US1035
mD3	03111600	1S2473D
	03111800	1S1588
	46052500	US1035
mLD3	07235700	LED Indicator Ass'y
mPL1	07244800	Lamp 12V
• Transistor rQ1	03086101	2SD357
rQ2	03068300	2SC2320
	07194801	2SC1815
	46057201	LC945
	07299700	2SC2603
• Diode rD1	03117700	10E-2
rD2	03117700	10E-2
• Zener Diode rDZ1	03163300	RD15E B
rDZ2	03162700	RD11E B

* Since numbering method of parts number on the schematic diagram, circuit board, and parts list has been changed, please pay attention so as to fill out correct parts and stock number when ordering parts. For the detail, please refer to the service bulletin AN-103.

4. EXPLODED VIEW AND PARTS LIST

• Though every part included in mechanism ass'y is numbered in exploded view, part unlisted in the parts list are not supplied.



5. REPLACEMENT OF MAIN PARTS (See 4. Exploded View on page 5)

A. Replacement of mechanism chassis

- 1) Remove lid ass'y and lid base ass'y (See Front View on page 7)
- 2) Remove bonnet, bottom plate and front panel.
- 3) Cut the end of lines from mechanism chassis and their vinyl bands.
- 4) Pull out flexible wire.
- 5) Loosen 4 screws (5) (See Top View on page 7) fixing mechanism chassis.

B. Replacement of motor ass'y

- 1) Remove bonnet, bottom plate and front panel.
- 2) Cut the end of line from motor.
- 3) Loosen one screw at input terminal to remove back panel.
- 4) Remove left and right side panels slowly.
- 5) Loosen 2 screws (3) at motor mounting plate (43) to take out it.
- 6) Loosen 3 screws fixing motor ass'y (47).

C. Replacement of capstan belt

(See B. Replacement of motor ass'y)

- 1) Take out motor mounting plate (43).
- 2) Loosen 2 screws (8) fixing flywheel bearing plate (55) to take out it.

D. Replacement of counter belt

- 1) Remove bonnet, lid ass'y and mechanism panel (62).
 - 2) Take out counter belt (31) from the gap (between lead switch (68) and magnet of counter (32)).
- Note: Pay attention not broken lead switch.

<Mechanism Parts List>

Parts No.	Stock No.	Description
6	07707100	Erase Head
9	07706900	Ball Bearing
11	07556600	REC P.B. Head
13	08322600	E Ring M2.5 x 0.4
14	07707300	Pinch Roller Ass'y
15	07707400	Spring, pinch roller
16	07707500	Spring, idler
26	07708200	Sensor Nail
28	07708300	Idler Arm Ass'y
29	07708400	Play Idler Ass'y
31	07708600	Counter Belt
32	07708700	Tape Counter
38	07708900	Lead Switch
39	07712400	Plunger Solenoid
47	07712500	Motor Ass'y
48	07709300	Sub Mechanism Ass'y
49	07712600	Leaf Switch
51	07709400	Capstan Belt
54	07709600	Flywheel Ass'y
57	07712800	Plunger Solenoid
59	07712900	Leaf Switch
65	07713100	Switch
73	07711500	REC/REW/PLAY/STOP, EJECT Button (Silver Model)
		REC/REW/PLAY/STOP, EJECT Button (Black Model)
74	07713200	F.F./PAUSE Button (Silver Model)
		F.F./PAUSE Button (Black Model)
94	07714000	Clutch F.F. Ass'y
97	07714300	F.F./REW Lever
99	07714500	F.F./REW Arm Ass'y
100	07714600	F.F. Belt
101	07714700	Supply Reel Hub Ass'y
105	07715100	Take Up Reel Hub Ass'y
108	07715200	Spring
114	07707000	Plastic Tack
115	00489000	E Ring, M2
118	07708500	Polyester Washer 1.7φ
119	51804300	Polyester Washer 2.1φ

E. Replacement of rec prevention nail

- 1) Remove bonnet, lid ass'y and mechanism panel (62).
 - 2) Take off the end of spring (25) at rec prevention nail.
 - 3) While widen a little of foundation, push squeeze the new nail.
- Note: Pay attention not broken foundation of nail.

F. Replacement of idler arm ass'y

- 1) Take out mechanism chassis from set.
 - 2) Take out mechanism panel (62).
 - 3) Loosen 3 screws (3) to remove side mechanism connection plate (61).
 - 4) Take out E-type washer (15) at right side of cassette support (72).
 - 5) Loosen 2 screws (8) fixing friction chassis (67) to remove it.
 - 6) Loosen 2 screws (8) at motor mounting plate (43).
 - 7) Loosen one screw (3) at side mechanism chassis (43) to remove it.
 - 8) Loosen 2 screws (8) at flywheel bearing plate (55) to pull out capstan flywheel (54).
 - 9) Loosen one screw (3) at head base holder plate (2).
- Note: Pay attention not loose ball bearing.
- 10) Take off head base spring (4) from hook of play lever (90).
 - 11) While pull idler arm ass'y (28) to the right, pick up right end of head base (5) and put it on idler arm (28).
 - 12) Loosen 2 screws (27) and while move idler arm ass'y (28) slowly, remove sub mechanism chassis (48).

G. Replacement of take-up reel hub ass'y, supply reel hub ass'y, FF/REW arm ass'y and FF belt

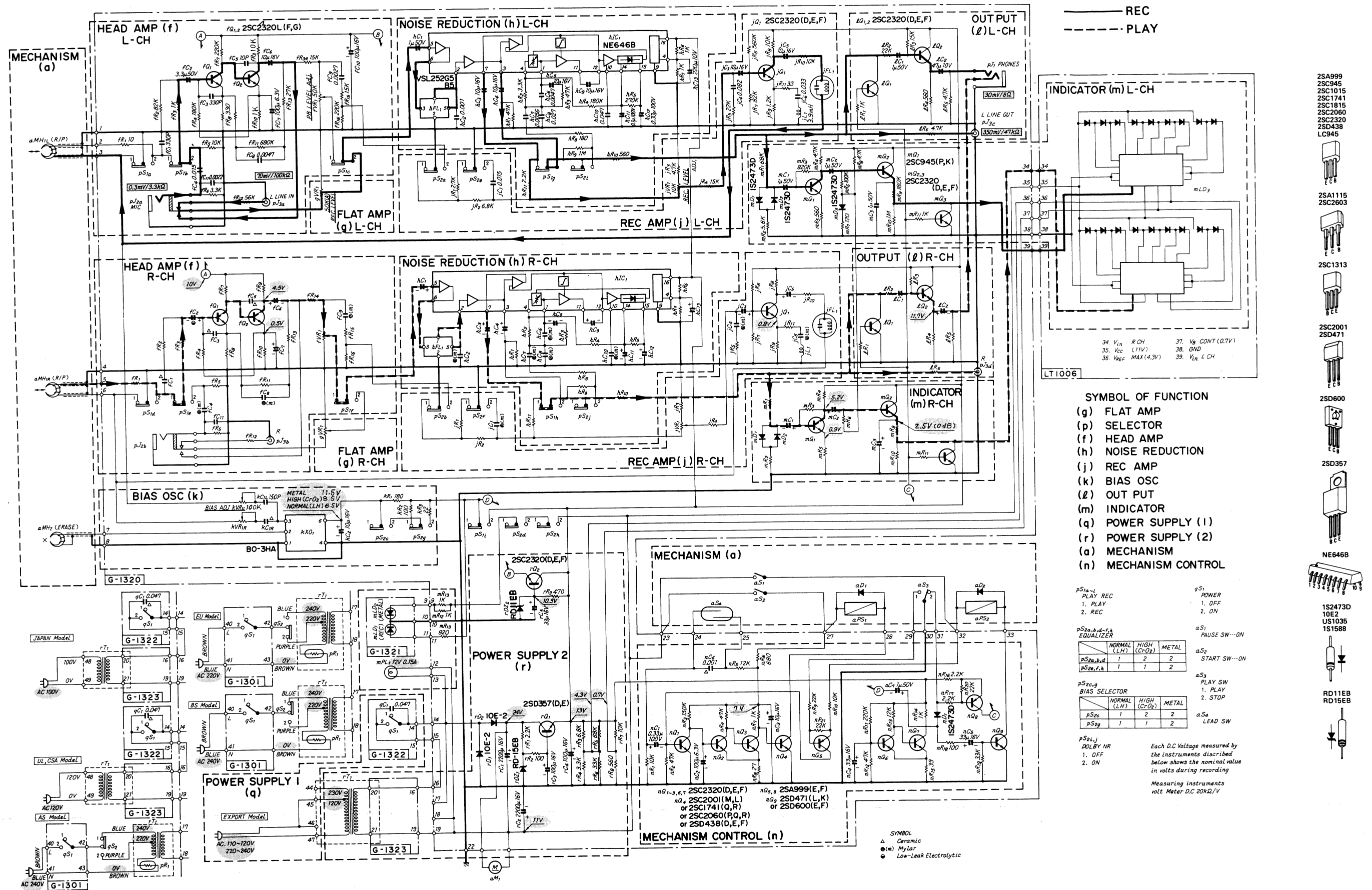
- 1) Remove sub mechanism chassis (48) from main mechanism chassis.
 - 2) Pull out 2 plastic tacks (114) to take out lock plate (85) (86).
- Note: Pay attention not broken plastic tacks.
- 3) Take out play lever (90).
 - 4) Take out FF lever (89), rec lever (87) and rew lever (88) further on the occasion of supply reel hub ass'y, FF/REW arm ass'y and FF belt.
 - a. Take out polyester washer (118) (119) on the occasion of take-up reel hub ass'y and supply reel hub ass'y.
 - b. Take out E-type washer (115) at arm ass'y (106) shaft on the occasion of FF/REW arm ass'y.
 - c. Pull out one gear of FF/REW arm ass'y (99) and take out E-type washer (115) at cue arm (93) on the occasion of FF belt (100).

H. Cleaning of take-up reel hub (105) and play idler (28)

- 1) Perform items 1) ~ 4) "Replacement of motor ass'y".
- 2) Loosen 2 screws at flywheel bearing plate (55) to pull out capstan flywheel (54).

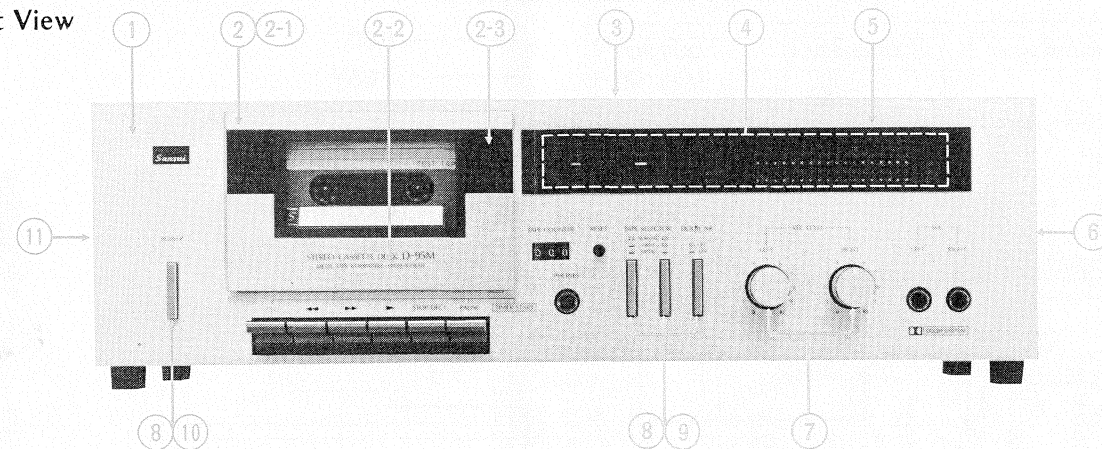
6. SCHEMATIC DIAGRAM

• Design and specifications subject to change without notice for improvement.
 • La présentation et les spécifications sont susceptibles d'être modifiées sans préavis par suites d'améliorations éventuelles.
 • Änderungen, die dem technischen Fortschritt dienen, bleiben vorbehalten.



7. OTHER PARTS

7-1. Front View

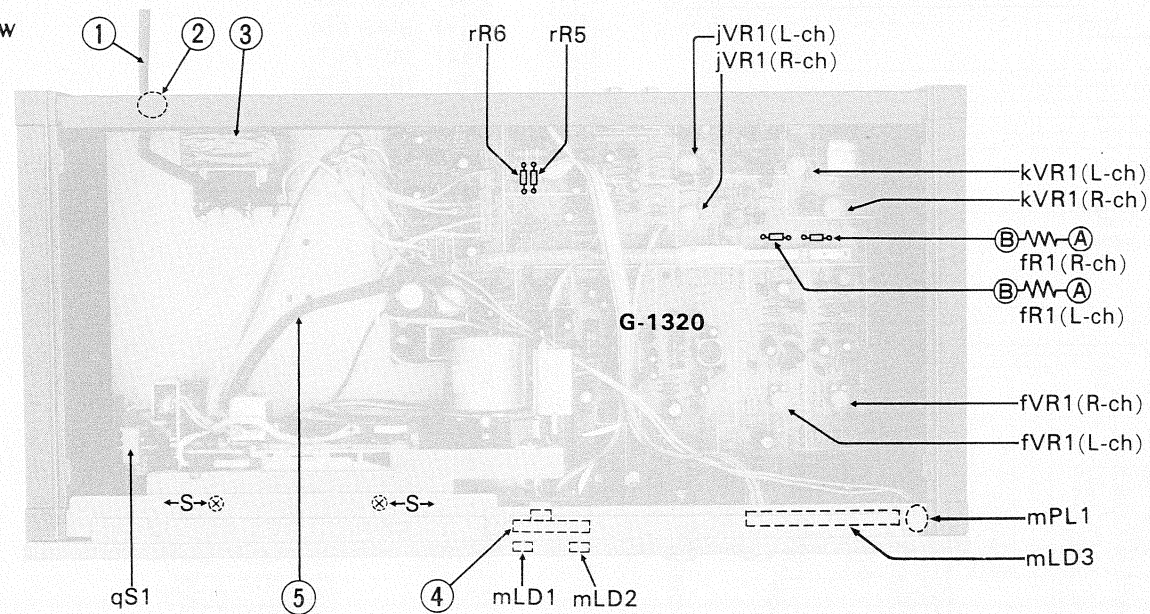


Parts List

Parts No.	Stock No.	Description
1	07629100	Front Panel Ass'y (Silver Model)
	07629200	Front Panel Ass'y (Black Model)
2	07629700	Lid Ass'y (Silver Model)
	07629800	Lid Ass'y (Black Model)
2-1	07622200	Dress Panel (A) (Silver Model)
	07622100	Dress Panel (A) (Black Model)
2-2	07622500	Dress Panel (B) (Silver Model)
	07622400	Dress Panel (B) (Black Model)
2-3	07629400	Lid Base Ass'y (Silver Model)
	07629500	Lid Base Ass'y (Black Model)
3	07601400	Bonnet
4	07629310	Meter Frame Ass'y
5	07624800	Meter Cover

Parts No.	Stock No.	Description
6	07602000	Side Panel (R)
7	07614200	Knob, rec level (Silver Model)
	07614500	Knob, rec level (Black Model)
8	07580300	Push Knob, tape sel., dolby, power (Silver Model)
	07580500	Push Knob, tape sel., dolby, power (Black Model)
9	07581300	Push Knob Guide (Silver Model)
	07581200	Push Knob Guide (Black Model)
10	07628000	Push Knob Guide (Silver Model)
	07595700	Push Knob Guide (Black Model)
11	07601900	Side Panel (L)

7-2. Top View



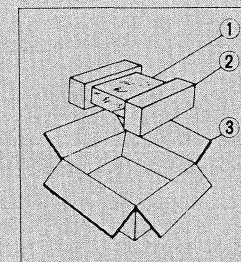
Parts List

Parts No.	Stock No.	Description
qS1	07194600	Push Switch, power
1	38005400	Power Supply Cord
2	39106000	Strain Relief
3	15000901	Power Transformer

Parts No.	Stock No.	Description
4	07607600	2P LED Holder
5	07249700	Flexible Wire Ass'y
mLD1	03193700	Light Emitting Diode SEL1110S
mLD2	07246200	Light Emitting Diode SEL1710K

8. PACKING LIST

Parts No.	Stock No.	Description
1	91263800	Vinyl Cover
2	07641000	Styrofoam Packing
3	07635700	Carton Case (Silver Model)
	07635600	Carton Case (Black Model)



9. ACCESSORY LIST

Stock No.	Description
07640800	Operating Instruction
38103300	PJP Cord
94300500	Head Cleaner



SANSUI ELECTRIC COMPANY LTD.:
SANSUI ELECTRONICS CORPORATION:

SANSUI ELECTRONICS (U.K.) LTD.:
SANSUI ELECTRONICS G.M.B.H.:

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